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(54) Title: A HIGH RESOLUTION TYPING SYSTEM FOR PATHOGENIC BORRELIA



(57) Abstract: MLVA methods for strain discrimination among globally diverse *Borrelia* isolates including *B. burgdorferi*, *B. afzelii*, and *B. garinii* are disclosed. Ten VNTR loci have been identified from genomic and plasmid sequences of *Borrelia* strains and primer pairs suitable for amplifying the VNTR by PCR are disclosed. Polymorphisms at these loci were used to resolve genotypes into distinct groups. The resolution of 30 unique genotypes into five to seven distinct groups is demonstrated. This sub-typing scheme is useful for the epidemiological study of *Borrelia* and may be applied to the local detection of the pathological causative agent of Lyme Disease.

WO 2004/005479 A2



2004/005479 A2



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